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ABSTRACT

In this study, 33 hearing and 29 deaf preschoolers were observed during outdoor free play at their respective schools over a seven-month period in an effort to determine if their friendships were unstable and transitory. Four issues were addressed: (1) the possibility that maintained and non-maintained friends serve different functions (this was examined by describing qualitative and quantitative differences in the play of these two types of friends); (2) the effects of the age, sex, and ethnic composition on the incidence of maintained and non-maintained friends; (3) the stability of friendship groups of social cliques which have been found in preschool classrooms; and (4) the length of time that maintained friendships were continued over a seven-month period. Contrary to past research, the results of this study suggest that maintained friends are at least as important as non-maintained friends during the preschool years. In general, the pattern of results was similar among the hearing and deaf children. The possible differential functions of maintained and non-maintained friends for preschool social development are discussed. (DST)

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Stable and Unstable Friendships:

An Observational Study of Hearing and Deaf Preschoolers

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Stable and Unstable Friendships:

An Observational Study of Hearing and Deaf Preschoolers

This study tested the thesis that preschool friendships are unstable and transitory (Gesell & Ilg, 1949; Howes, 1983). Thirty-three hearing preschoolers and 29 deaf preschoolers were observed during outdoor free play at their respective schools a seven month period. The year was divided into four time periods and each child was observed for four 5-min observations per period. Dyads were classified as friends if they showed mutual play preference, responsiveness, and pleasure. Friends were further classified as either maintained friends (friends for two or more time periods) or nonmaintained friends (friends for only one time period). Contrary to past research, the results of the present study suggest that maintained friends are at least as important as nonmaintained friends during the preschool years. On the average, children had one maintained friend and one nonmaintained friend per time period. The children played more with their maintained friends than with their nonmaintained friends. As with older children (Hartup, 1983), stability was associated with age and ethnic similarity. In general, the pattern of results was similar among the hearing and deaf children. The possible differential functions of maintained and nonmaintained friends for preschool social development are discussed.

During the last 15 years, there has been a growing consensus among researchers that friends play an important role in the social development of preschoolers. Ethnographic and antecdoctal observations suggest that friends help children learn important peer social skills, establish their identities, and facilitate entry into play groups (Adcock & Siegel, 1983; Corsaro, 1981; Hartup, 1983; Rubin, 1980). Although our knowledge of preschool friendships has grown considerably in recent years, there are still many unanswered questions. One such question concerns stability of friendships during the preschool years.

There are those who argue that preschoolers' friendships are highly unstable and transitory. For example, Gesell and Ilg (1949) observed that preschoolers form temporary and shifting peer "attachments" and that it is not until 6 years that friendships begin to stablize. Similarly, Selman and his collegues, in research on children's conceptions of friendship, describe preschool children's friendships as being based on momentary and shifting criteria, such as being a momentary play partner (Cooney & Selman, 1978; Selman, 1981). On the other hand, based on antedoctal evidence, Gottman and Parkhurst (1980) argue that preschoolers can have long-term stable friendships.

Research examining the long-term stability of preschoolers' friendships, limited to one small-N observation study (Howes, 1983), suggests there is some truth to both positions. Howes found that although stable friendships existed among her preschool population, they constituted only 17% of the friends formed by preschoolers. She concluded that preschoolers' friendships were primarily transitory, although some were long-term.

The major goal of the present study was to describe in more detail

these maintained and nonmaintained preschool friendships. Specifically, we were interested in addressing four issues. First, we examined the possibility that maintained and nonmaintained friends serve different functions by describing qualitative and quantitative differences in the play of these two types of friends. Dimensions which seem to be affected by friendship (e.g., affect, responsiveness, mutuality, play complexity and duration; Hartup, 1983) were contrasted to see if these dimensions were also affected by friendship stability. Second, we examined the effects of the age, sex, and ethnic composition on the incidence of maintained and nonmaintained friends. We expected similarity along these ascribed dimensions to be associated with more stable friendships, as is the case with older children (Hallinan & Smith, 1984; Hartup, 1983). Third, we explored the stability of friendship groups or social cliques which have been found in preschool classrooms (Smith & Connolly, 1980; Strayer, 1980). We expected friendship groups to be unstable, because group stability seemed to us to require even more stable relationships than dyadic friendship stability. Fourth, we examined the length of time that maintained friendships were continued over a seven month period.

To address these issues, a method of identifying friends had to be selected. A myriad of different methods have been used in the past. Each method differs in its assumptions about what a friend is. The most common method used, sociometric tasks, is based on the assumption that preschoolers like their friends more than other children and can verbally report these preferences. However, as Hinde, Titmus, Easton, and Tamplin (1985) point out, a child may like another child without being what we normally would call a friend. In addition, there is considerable doubt about the reliability of the responses of 3-year-old children on a

sociometric task (Hymel, 1983).

Two behavioral methods used by past researchers are based on the assumption that friends play together more than nonfriend dyads. One method (Hinde et al., 1985) assumes that friends will play together for a certain amount of time (e.g., 30% of time observed), regardless of the total amount of time a child spends playing with their peers. The other method (Strayer, 1980) assumes that friends show a preference for each other by playing proportionally more with each other than with other children (i.e., a higher proportion of their peer play). The latter method seems the more valid of the two because it adjusts for individual differences in peer sociability.

In addition to quantitative definitions of friendship, other behavioral methods are based on the assumption that play between friends is qualitatively different from play between nonfriends. For example, Howes (1983) defined friends as dyads who show mutual enjoyment, mutual preference or responsiveness, and ability to engage in skillful interaction.

Because empirical and theoretical research on friendships (Hartup, 1983) indicates that play of friends differs both quantitatively and qualitatively from that of nonfriends, we identified friends using a combination of the above methods. Specifically, our friendship definition was based apriori on three assumptions:

(a) friends show a quantitative preference for playing with each other.

(b) friends are responsive to each other's initiations.

(c) friends show positive affect with each other.

We assumed that specific criteria levels indicating preference, responsiveness, and positive affect would vary depending on the number of

children available, and the children's overall level of responsiveness and positive affect. We, therefore, used teachers' judgments to establish criteria levels: Criteria levels were set such that the maximum number of friends, consistent with teacher's friendship judgments, was identified. Our friendship designation was validated by showing that play among friends differed from nonfriends along dimensions not used in our criteria. Specifically, we expected to find a higher level of play, and a lower level of negative behavior among friends than among nonfriends. We also expected friends to have a higher level of mutuality or response matching than nonfriends (Foot, Chapman, & Smith, 1980).

A final goal of this study was to contrast the stability and organization of friendships among hearing children with that among deaf children. This comparison should serve three purposes. First, it would show the generalizability of our findings to two populations. Second, it would indicate the relationship between stability of friendship and language abilities. Bowes (1983) found that friendships among infants and toddlers were more stable than friendships among preschoolers. She argued that nonmaintained friendships may be dependent on the ability to use language because language allows two children to achieve a high level of interaction success even when they are relatively inexperienced with each other. Based on this hypothesis, we expected less friendship stability among the hearing children than the deaf children who were, on the average, language delayed. The third purpose was to provide information about the effect of deafness on the incidence and organization of friendship among deaf children. Although our knowledge about deaf children's peer relations has increased considerably during the last decade, naturalistic observations of deaf friends have not been made.

These issues were addressed by observing hearing and deaf 3-, 4-, and 5-year-olds during outdoor play at their respective schools from November through May. Over 40 children were available on the playground at each school. Because the availability of a large number of children has been shown to increase the amount children pair off into dyadic friendships and small social cliques (Smith & Connolly, 1980), this situation was considered optimum for the study of friendships.

Method

Subjects

Hearing Focal Children. The study included all children (N = 33) in a Head Start Center who were between 3 and 5 years old at the beginning of the study, who were enrolled for the entire school year, and who had no diagnosed handicaps. These children included 10 3-year-olds (M = 44, SD = 3.43), 13 4-year-olds (M = 56, SD = 3.80), 10 5-year-olds (M = 65, SD = 3.44). Table 1 shows the age, gender, and ethnic distribution of these children. The children were divided into three mixed-age classes but intermingled for much of the day.

Insert Table 1 about here

Deaf Focal Children. The study also included all hearing impaired children (N = 29) who were between 3 and 5 years old at the beginning of the school year and who were enrolled in total communication classes (i.e., teachers used both speech and an English-based sign system called Texas Perferred Signs) in a Dallas public school program for the entire school year. The school serves all preschool children identified as hearing impaired in the Dallas Independent School District. These deaf focal

children included 9 3-year-olds (M = 42 months, SD = 3.43), 8 4-year-olds (M = 56, SD = 3.80), and 12 5-year-olds (M = 65, SD = 3.44). Table 1 shows the age, gender, and ethnic distribution of these children. Twenty-five children had a severe to profound hearing loss (greater than 75 dB HL in their better ear); Four had a moderate hearing loss (between 60 dB and 75 dB HL in their better ear).

The majority of the deaf children were language delayed. According to teachers' ratings, one-third of the children primarily used one word (sign) utterances, one-third used two or three word utterances, and one-third used four or five word utterances. On the Total Communication Receptive Vocabulary Test (an adaptation of the Peabody Picture Vocabulary Test) (Scherer, 1981), 21 children were functioning below the norm for 3-year-old hearing children (3 years is the youngest norm established for hearing children). Observations of the use of language during outdoor free play (see below for details of coding procedure) indicated the deaf children rarely used language with each other: language was used in only 7% of the 7 1/2 sec interaction time-frames (compared with 48% for the hearing children).

The deaf children were divided into six small classes. However, four of these classes participated in Interest Center activities together for a large portion of the day.

Partners. Potential partners included the focal children and some children who did not meet focal children criteria but who were available during free play. Relatives and neighbors were not considered potential partners.

At the Head Start Center, there were 50 children, on the average, on the playground. These children were: 28% 3-year-olds, 50% 4-year-olds, 22%

5-year-olds; 55% girls, 45% boys; and 24% Hispanic, 31% black, 45% white. In addition to the focal children, these children included 23 children who either had diagnosed speech or hearing problems or did not attend school for the entire year. An additional 18 children on the playground were not included in this study because they attended school for less than two time periods and therefore could not be maintained friends.

At the deaf children's school, there were 45 children, on the average, on the playground. These children were: 29% 3-year-olds, 27% 4-year-olds, 27% 5-year-olds; 36% girls, 64% boys; and 25% Hispanic, 32% black, 42% white. In addition to the focal children, these children included 12 children who did not meet focal children criteria because they were mildly to moderately hearing impaired and attended oral classes, were not between the ages of 3 and 5 years, or did not attend school for the entire year. An additional 10 children on the playground were not included in this study because they attended school for less than two time periods.

Procedure. The focal children were observed during outdoor free play from November through May. The year was divided into four six - eight week time periods. During each time period, each focal child was observed for four 5-min observations. Thus, a total of 16 5-min observations per child was made across the school year. The children were randomly selected for coding each day with the following limiting criteria: a) Each child was coded on a different weekday for the four observations within a time period. b) A round of observations (e.g., the first observation of the time period) was completed on all subjects at the school before starting a new round. c) Equal numbers of boys and girls were coded each day. d) Equal numbers of 3-, 4-, and 5-year-olds were coded each day.

Observations were made every school day that the children played

outside except when one or more classes were not available (e.g., special trips) or when large numbers of children were absent (primarily in winter). Observation of a child was terminated when the child started to participate in teacher-directed activities, when the child left the playground area or when he or she was out of sight of the observer. The 5-min observation was completed later during recess time or the next day.

One observer coded only at the deaf children's school, one observer coded only at the hearing children's school, and a third observer coded at both schools. During each time period, 15 children (randomly selected) from each school were coded simultaneously for one 5-min observation by the two observers coding at the school. Using the formula Agreements/Disagreements + Agreements, interrater reliability (calculated per time period) ranged from .76 to 1.00, with a mean of .91.

A continuous 7 1/2 sec time-sample coding procedure was used to code the focal child's play behavior. For each time frame, the following categories were coded whenever the focal child was engaged in peer play. Interrrater reliablity for each category is noted in parenthesis.

(a) the highest level of peer play. Coded as either parallel play (the child is engaged in a similar activity as a partner(s)) or social interactive play (the child directs and/or receives a social behavior from a partner (s)). (parallel play, $M = .91$; interactive play, $M = .88$).

(b) the name of the focal child's play partner(s). Defined as any child who directed a social behavior to the focal child, was the recipient of a social behavior from the focal child or was in parallel play with the focal child. Because of time constraints, when the focal child played with three or more children, the partners' identities were not recorded. Because of this, group play (i.e., play between four or more children) was

excluded from the present analyses. (partner's name, M = .98).

(c) the focal child's and partner(s)' initiations and their responses to those initiations. Initiations were defined as the first social behavior after a 7 1/2 sec time-frame during which there were no social behaviors between focal child and partner. A social behavior was considered a response to an initiation if it occurred during the same or subsequent time-frame. (initiation, M = .85; response, M = .88)

(d) affective tone of the focal child's and partner(s)' social behaviors. A positive social behavior was recorded if a child smiled, laughed, engaged in rough and tumble play, held hands, helped another child, or used speech, signs, or gestures which were positive in affect. A negative behavior was coded if the child cried, aggressed, took an object away from the partner, or used speech, signs or gestures which were negative in tone. A neutral behavior was coded if the child imitated, looked at an object in response to the social actions of his/her partner, engaged in large body movements or attention-getting behavior, or used gestures, mime, sign or speech which were neutral in tone. (positive, M = 93; negative, M = .98; neutral, M =.80.).

(e) the use of language (either sign or speech) by the focal child or partner. (M=.81.)

Teacher Judgments. To serve as a validation measure, the teachers who supervised the children on the playground were asked at the end of the schoolyear to identify the focal children's three best friends.

Dyadic Analysis. Similar to Howes (1983), friendship identification was based on dyadic variables. To create these dyadic variables, all recorded instances of play between members of a dyad in a time period were combined, irrespective of which of the two children was the focal child.

Thus, if both members of a dyad were focal children, dyadic information for a time period included any observations when child A was the focal child and child B was his/her partner and observations when child B was the focal child and child A the partner. To include triadic play in the analysis, triads were treated as two dyads, with one dyad containing the focal child and one partner, and the other containing the focal child and the other partner. From this combined observation record, the following set of variables were derived for each dyad that occurred in a time period:

(a) Proportion of peer play spent playing together (corrected for availability). This was calculated by dividing the amount a dyad played together by the amount of time the members of the dyad were observed playing with peers. This quantitative variable measured mutual play preference. It reflected how often the children chose to play with one another vis a vis other partners. Because of absenteeism, members of different dyads had varying amounts of opportunities to play together. To correct for this, a dyad's proportion of peer play was divided by the proportion of the dyadic members' 5-min observations that both children were present. (Class records were collected daily to determine absenteeism).

(b) Dyadic initiation success rate. Proportion of a dyad's initiations to each other that was successful in eliciting a response. This qualitative variable measured mutual responsiveness.

(c) Frequency of positive behavior. This measured the amount of positive behavior a dyad used with each other.

(d) Proportion of 7 1/2 sec interaction time-frames containing positive and negative behaviors. These qualitative variables measured the affective tone of the dyad's social interaction, while controlling for the amount of

time they spent interacting. Because a positive and a negative behavior could be scored in an interaction time-frame, these proportions were methodologically independent of each other.

(e) Proportion of 7 1/2 sec interaction time-frames containing language. This qualitative variable measured the amount a dyad used language during play.

(f) Proportion of interactive play (i.e., interactive play/ parallel + interactive play). This qualitative variable measured a dyad's level of play.

Data Analysis. Data analysis was organized to address three questions. First, were the criteria used to identify friends valid? Second, how did maintained friends differ from nonmaintained friends? Third, what was the effect of deafness on the maintanence and organization of friendship? When addressing the first two questions, the hearing and deaf children were analyzed separately to determine if the results were replicable in two different populations.

Results

Friends vs. Nonfriends

Friendship Criteria. The first step in the data analysis was to establish friendship critieria. Dyads were categorized as friends if they met the following three criteria:

(a) Play Preference: More than 15% of their play with peers was spent with each other (prorated for availability).

(b) Responsiveness: They had an initiation success rate of 50% or greater with each other.

(c) Pleasure: At least one positive behavior was used.

Friends were further subdivided into non-maintained friends (those

dyads who met the friendship criteria for only one of the four time periods) and maintained friends (those dyads who met the friendship criteria for two or more time periods).

To set criteria levels, we first identified friends using what we hypothesized to be the minimum levels necessary for a dyad to meet the three apriori assumptions of play preference, responsiveness, and pleasure. These levels were: playing together for 10% of peer play, having a 50% initiation success rate, and using at least one positive behavior. The identified friends were then compared with the teachers' friendship judgements made during the last time period. The criteria levels were increased so that a maximum number of dyads were identified by both the behavioral criteria and teacher judgments. Using the final set of criteria listed above, one hundred percent of the hearing maintained friend dyads and 97% of the deaf maintained friends were identified by teachers.

Behavioral Validation of Friendship Criteria. Two sets of analyses that contrasted the behavior of friends and nonfriends were conducted to behaviorally validate the friendship criteria. The first analysis compared the behavior of friends and nonfriends using planned comparisons for the three variables not related to friendship criteria: proportion of negative behavior, proportion of language behavior, and proportion of interactive play. If our criteria were accurate in identifying friends we expected friends to be less negative and engage in more interactive play than nonfriends.

The second analysis tested the hypothesis that there would be more response matching between friends than between nonfriends. Intraclass correlations were conducted on the rate of initiations, and positive, neutral, negative, and language behavior between friends and between

nonfriends. Friend correlations and nonfriend correlations were compared, then, to determine if they were significantly different from each other.

Analyses were conducted separately for the hearing and deaf children. Only results significant at the $p < .05$ are reported below.

For the hearing children, both hypotheses were confirmed. Hearing friends were more likely to engage in interactive play, and less likely to use negative behavior and language with each other than were hearing nonfriends (see Table 2). In addition, response matching was higher between hearing friends than between hearing nonfriends. As is shown in Table 3, the number of initiations, positive behaviors, and linguistic behaviors used between hearing friends were more highly correlated or matched than those used between hearing nonfriend dyads. Interestingly, hearing nonfriends were more likely to match negative behavior than were hearing friends (see Table 3).

Insert Tables 2, 3 about here

The analysis of the deaf children indicated that deaf friends differed from deaf nonfriends along two dimensions. Planned comparisons revealed that deaf friends were less likely to use negative behavior with each other than were nonfriends (see Table 2). In addition, the number of initiations deaf friends used with each other were more highly correlated or matched than the number used between deaf nonfriends (see Table 3).

Similarity of Age, Sex, and Ethnicity of Nonfriends and Friends. A third validation of our friendship criteria was to test the hypothesis that friends were more likely to be the same sex, ethnicity, and age (defined as ± 12 months) than nonfriends. A series of chi-square analyses were

conducted separately for the hearing and deaf children. For the hearing children, dyads who were friends during the year were more likely to be the same sex and ethnicity (but not same age) than dyads who were never friends (see Table 4). For the deaf children, dyads who were friends during the year were more likely to be the same age, sex, and ethnicity than dyads who were never friends (see Table 4). Thus, for both deaf and hearing children, friends were more similar along these ascribed dimensions than nonfriends, providing further validation of our friendship criteria.

Insert Table 4 about here

Friendship Incidence. Using these criteria, 14% of the 784 dyads formed during the year at the hearing school reached friendship criteria. The median number of different friends for the hearing focal children was 2 per time period (range 0 - 7) and 5 for the year (range 2 - 12).

The pattern of friendship incidence was almost identical among the deaf children. Fifteen percent of the 612 deaf dyads formed during the year reached friendship criteria. The median number of different friends for the deaf focal children was 2 per time period (range 0 - 6) and 6 for the year (range 2-10).

Stability of Preschool Friends

The next series of analyses was conducted to address the four issues concerning maintained and nonmaintained friends raised in the introduction.

Incidence of nonmaintained and maintained friends. First, we examined the quantitative importance of maintained and nonmaintained friends. Similar to Howes (1983), we found many more nonmaintained friends were formed during the year than maintained friends. Only 19% of the 109 hearing

friends were maintained for two or more time periods. For the year, the median number of nonmaintained friends per focal child was 4 (range = 0-9), while the median number of maintained friends was 1 (range = 0-3).

However, analysis by time period yielded a different picture. During a given time period, the children were likely to have equal numbers of maintained and nonmaintained friends. On the average, children had 1 nonmaintained friend per time period (range = 0-5) and 1 maintained friend (range = 0 - 3). Thus, the larger proportion of nonmaintained friends for the year was really an artifact of the fact that children had a different nonmaintained friend during each time period.

Other results also indicate the quantitative importance of maintained friends. Having at least one maintained friend was the norm for the children: 73% of the hearing focal children had one or more maintained friend during the year. In addition, for those children who had both maintained and nonmaintained friends (n = 23), planned comparisons indicated that the children spent significantly more time playing with their maintained friends than with their non-maintained friends during the year (maintained friends = 30% of peer play, nonmaintained friends = 17%; t = 2.53, p <.01).

The incidence of maintained friends was similar among the deaf children, though they spent less time playing with their maintained friends. Out of the 89 deaf friends formed during the year, 21% were maintained for two or more periods. Median number of nonmaintained friends was 4 per year (range 1- 8) and 1 per time period (range = 0 - 4). Median number of maintained friends was 1 per year (range = 0 - 3) and 1 per time period (range = 0 - 3). The vast majority of deaf focal children (83%) had one or more maintained friend during the year. Unlike the hearing

children, the amount of time the deaf children spent playing with their maintained and nonmaintained friends was not significantly different (maintained friends = 20% of peer play; nonmaintained friends = 17%).

Play differences of Maintained and Nonmaintained Friends. Qualitative differences in the play of maintained and nonmaintained friends were examined to see if stability of friendship affects the same variables as friendship. Two sets of analyses similar to those used to compare the behavior of friends and nonfriends were used. For both analyses, play between two children who met the definition of nonmaintained or maintained friends was included only for those time periods during which the dyad met the friendship criteria. The first set compared the quality of play and behavior between maintained friends with that between nonmaintained friends by conducting planned comparisons on the following variables: proportion of peer play spent playing together, proportion of interactive play, initiation success rate, proportion of positive, negative, and language behavior. The second set of analyses compared response matching between maintained friends with that between nonmaintained friends for the frequency of initiations, positive, negative, neutral, and language behavior.

It is important to note that differences between maintained and nonmaintained friends could not be an artifact of the criteria used to identify friends because both maintained and nonmaintained friends met these criteria.

For the hearing children, maintained friends differed in only two ways from nonmaintained friends. Planned comparisons indicated hearing maintained friends spent more time playing with each other than nonmaintained friends (maintained friends, M = 34% of the dyad's peer play;

nonmaintained friends, M = 28%, t (107) = 1.87, p < .05). Intraclass-correlational analyses indicated that maintained friends matched their language behavior significantly more than did the nonmaintained friends (maintained friends, r = .84, nonmaintained friends, r =.65; z = 2.64, p <.05). Thus, maintained and nonmaintained friends did not differ significantly along most of the variables which differentiated friends from nonfriends.

For the deaf children, planned comparisons indicated that maintained friends were more likely to engage in interactive play than nonmaintained deaf friends (maintained friends, M = 78% of play; nonmaintained friend, M = 63%, t(52) = 2.65, p < .01). In addition, maintained deaf friends matched their language behavior significantly more than did the nonmaintained friends (maintained friends, r =.70, nonmaintained friends, r = .30, z = 3.45, p < .01).

Pattern of Maintained Friends. The next analysis explored the long-term stability of maintained friends. Because maintained friends were defined as friends for two out of four time periods, the length and stability of these friendship dyads could vary. There were three different patterns of maintained friends (1) short-term continuously maintained friends: those friends who met the friendship criteria for two consecutive time periods. (2) long-term continuously maintained friends: those friends who met the friendship criteria for three or four consecutive time periods. (3) sporadically-maintained friends: those dyads who were friends for two or three time periods of which two were non-consecutive. These dyads were friends for a period of time, then were not friends for one or two periods, and then were friends again.

For the hearing children, long-term continuously maintained friendship

was the most common pattern (see Table 5).

For the deaf children, sporadically-maintained friendship was the most common pattern, with long-term continuously maintained friendship rarely occurring (see Table 5).

Insert Table 5 about here

Failure to be Friends. The previous analysis indicated that over half of the maintained friends did not meet friendship criteria during one or more time periods. The next analysis was designed to explore the behavior of maintained and nonmaintained friends during these "nonfriend" time periods in order to further understand the nature of these two types of friendships. Dyads could fail to be friends during a time period because they did not play together during that time period, or because they did not meet all the friendship criteria.

For the hearing children, nonmaintained friends failed to be friends because they did not play together during 85% of their "nonfriend" time periods. On the other hand, maintained friends played together during 80% of their "nonfriend" time periods but failed to be friends because they did not meet all the friendship criteria. This was a significant difference, $\chi^2 = 44.44$, $p < .001$.

A similar pattern emerges for the deaf children. For 84% of their "nonfriend" time periods, deaf nonmaintained friends did not play together. For 54% of their "nonfriend" time periods, deaf maintained friends played together but did not meet all the friendship criteria, $\chi^2 = 17.15$, p .001.

These results indicate that nonmaintained friends' preferences for each other were truely short-lived, while maintained friends, even when

they did not reach friendship criteria, showed a consistent preference for playing with each other.

Similarity of Age, Sex, and Ethnicity of Maintained and Nonmaintained Friends. This analysis tested the hypothesis that similarity in age, sex, and ethnic composition of a friendship dyad would be associated with greater stability.

For the hearing children, a series of chi-square analyses indicated that maintained friends were more likely to be the same age and ethnicity than nonmaintained friends (see Table 6). As is evident from Table 5, sex similarity probably did not affect the stability of friendships because nonmaintained friends were already almost all the same sex. The tendency for maintained friends to be same age and same sex was so strong that only one pair of maintained friends was different-aged or different-sex. Ethnicity seemed to have less of an effect with six pairs of maintained friends being of different ethnicity.

Insert Table 6 about here

For the deaf children, maintained friends were more likely to be same age than nonmaintained friends (see Table 6). The tendency for maintained deaf friends to be same age and same sex was also strong: only two pairs of children were different-aged or different-sex. In contrast, almost half of the maintained friends were of a different ethnicity.

Group Organization. The next analysis examined the stability of friendship groups or cliques. A friendship group was defined as a group of three, four, or five children each of whom was a friend of at least two other members of the group (Cohen, 1977). A stable group was defined as having

maintained at least 3 of its members for two or more periods (Hallinan, 1980).

It was fairly common for the hearing friends to be organized into groups: 34% of the friends were organized into groups. These groups, however, were highly unstable: only 1 of the 13 groups maintained itself for more than one period. Chi-square analyses indicated that nonmaintained and maintained friends were equally likely to be members of a group.

Groups were not very common among the deaf children, only 17% of the deaf friends were organized into groups. No group (out of 6) lasted more than one time period. Nonmaintained and maintained friends were equally likely to be members of groups.

Comparisons between Hearing and Deaf Children

Two sets of analyses compared the deaf and hearing children's patterns of friendships. First, analyses were conducted to test the hypothesis based on Howes (1983) that deaf children would have more stable friendships than hearing children. Chi-square analyses indicated that hearing status did not affect the incidence of maintained and nonmaintained friends. There were no significant differences between hearing and deaf children in the number of maintained and nonmaintained friends formed during the year. On the other hand, hearing children spent significantly more time playing with their maintained friends than did deaf children, t (46) = 2.44, p <.01. Hearing and deaf children also differed in the stability of their maintained friends. As is evident in Table 6, hearing children had more continuously maintained friends, while deaf children had more sporadically maintained friends, χ^2 = 6.04, p < .05. Thus, the hypothesis was not supported.

The second set of analyses examined the effect of hearing status on

the incidence and organization of friendship. Chi-square analyses revealed no significant differences between the hearing and deaf children for friendship frequency, or the number of friends focal children had per time period or year. On the other hand, deaf friends were less likely to be organized into friendship groups than were hearing friends, (hearing = 34%, deaf = 17%), $\chi^2 = 11.06$, $p < .001$.

Discussion

The results of this study suggest that characterizing preschool friendships as sporadic and fluctuating is an oversimplification. The preschoolers in our study had both maintained and nonmaintained friends. Although we replicated Howes (1983) finding that stable friendships constituted only a small proportion of the preschoolers' friendships, further analyses suggested that this was because the identity of a child's nonmaintained friend changed each time period while his or her maintained friend stayed the same. In fact, at any given time the preschoolers, on the average, had an equal number of maintained and nonmaintained friends. The importance of the maintained friends also seemed out of proportion to their numbers: the hearing children spent almost twice as much time playing with their maintained friends as with their nonmaintained friends.

These results indicate that further research is needed to understand the development of stable friendships. The results cast doubt on Howes' (1983) conclusion that there is a switch from having stable friendships during infancy to unstable friendships during the preschool years. Her finding that the proportion of stable friendships decreases between infancy and preschool is probably due to the addition of temporary friendships rather than the replacement of stable friendships with unstable ones. Children probably need to develop a certain level of social skills before

they can reach the level of play needed to be designated as friends with children whom they do not have a long term relationship. However, these new short-term friendships probably do not replace the need for an enduring friendship. It would be interesting to see if friendships seem to stabilize after preschool (Gesell & Ilg, 1949) because children no longer have temporary friends or because they have more stable friends.

Preschool maintained and nonmaintained friendships seem to be two distinct types of relationships rather than part of a continuum. Maintained friends seemed to have a very stable, long-lasting relationship, playing together during almost every observation time period. Nonmaintained friends, on the other hand, seemed to have a very unstable relationship, playing together only during the one time period that they reached friendship criteria. Maintained friends were very similar in age and ethnicity, while nonmaintained friends were frequently of different age and ethnicity. Thus, preschool friendships seem to fall into two categories: enduring, stable relationships with one or two, very similar, children and a series of temporary attractions to a wider variety of children.

Given the differences in these two types of friendships, it seems likely that they serve different functions for the preschool child. Because of their similarity in age and ethnicity, maintained friends may be especially important for the development of a child's identity and for providing the context for practicing age-appropriate tasks. Maintained friends also may form an emotional bond which might provide them emotional security in stressful situations (Howes & Mueller, 1980). On the other hand, nonmaintained friends may give the child the broader experience of playing with children who are dissimilar from themselves. For example,

based on same- vs. cross-age peer interaction research (Hartup, 1983), we would expect that children gain experience using social skills with their different-aged nonmaintained friends not used with their same-age maintained friends, such as nurturance and adaptation to a younger friend and imitating the more advanced behavior of an older friend. In addition, nonmaintained friends may play an important role in facilitating access to ongoing play. Corsaro (1980) suggests that by establishing relations with several children, preschool children create a network of children who are more responsive to them when attempting to enter ongoing play groups. Thus by having nonmaintained friends, children may increase the probability of gaining access to a variety of play groups. Interestingly, we did not find that stability of friendship affected the qualitative dimensions that friendship itself did. Thus, both types of friendships seem to be a relationship where the child has a positive reciprocal experience.

Although stable friendships were common among the preschoolers, stable friendship groups or cliques were rare. Such stability may be dependent on a conscious recognition by the children involved that they are a group. Although this is common among older children (Ballinan, 1980), it has not been observed in preschool children. It would be interesting to see if group stability and identity are so related.

The results indicate that our combination of quantitative and qualitative behavioral criteria for identifying friends was valid. Consistent with past research (Hartup, 1983; Sharabany & Hertz-Lazorowitz, 1981) dyads who met the friendship criteria engaged in a higher level of play, talked less with each other, and matched initiations, positive and linguistic behaviors more than dyads who did not meet those criteria. Interestingly, friends were less likely to match negative behaviors than

nonfriends. It may be that it is in the context of friends that children learn not to escalate negative behavior, a skill which has been viewed as an important developmental goal (Cairns, 1979).

The findings with hearing children were, in general, replicated with the deaf children, although there seemed to be less distinctions between deaf friends and nonfriends than between hearing friends and nonfriends. Comparisons between deaf and hearing children did not confirm our hypothesis based on Howes (1983) that stability of friendship would be increased among the deaf children because of their lack of language. Instead, the few differences which existed between deaf and hearing children's maintained and nonmaintained friends suggested that deaf children had fewer long-term stable friendships than hearing children.

The results also suggest that deafness does not affect the incidence of friendship, but does affect the organization of those friendships. Unlike hearing friends, deaf friends were rarely organized into a group or social clique. Perhaps, such group organization is dependent on a level of language use uncommon among the deaf children in this study. For instance, group formation may be facilitated by friends talking about other group members in their absence.

In summary, this study indicates that during a school year most preschoolers maintain a stable friendship with one or two highly similar children, while having several short-term friendships with a variety of children. The development and functions of these two types of friendships are clearly important areas for future research.

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Table 1

Ethnic, Gender, and Age Characteristics of Hearing and Deaf Focal Children

Characteristics	Hearing Children			Deaf Children		
	3-	4-	5-	3-	4-	5-
	Year-Olds			Year-Olds		
Girls						
Hispanic	3	2	1	2	0	0
Black	3	2	3	0	2	1
White	1	2	3	1	2	1
Boys						
Hispanic	1	3	0	2	2	4
Black	1	2	1	3	2	2
White	1	2	2	1	0	4

Table 2

Mean Scores and Results of Planned Comparisons of Behavior of Nonfriends and Friends

	Nonfriend	Friend	t values
Hearing Children			
Interactive Play (%)	70.34	78.34	3.40^{***}
Negative Behavior (%)	5.83	1.12	6.01^{***}
Language Behavior (%)	44.28	38.94	8.86^{***}
Deaf Children			
Interactive Play (%)	64.55	66.13	.41
Negative Behavior (%)	7.50	1.65	6.48^{***}
Language Behavior (%)	6.35	5.82	.40

$^{*}p < .05$. $^{**}p < .01$. $^{***}p < .001$.

Table 3

Intraclass Correlations of Behavior between Friends and Nonfriends

	Nonfriend	Friend	Significant z Scores[1]
Hearing Children			
Initiations	.1841	.4744	3.74
Positive	.6464	.8247	4.70
Negative	.4266	.1531	3.52
Neutral	.9264	.9532	
Language	.7189	.8178	2.84
Deaf Children			
Initiations	.2387	.4730	2.04
Positive	.6367	.6264	
Negative	.3077	.4569	
Neutral	.9286	.9587	
Language	.7189	.6862	

[1] Significant at $p < .05$.

Table 4

Proportion of Same-Age, Same-Sex, and Same-Ethnicity Friends and Nonfriends

	Nonfriend	Friend	Chi-Square Statistic
Hearing Children	(n=676)	(n=109)	
Same-Age	73.52	80.73	2.57
Same-Sex	81.36	95.41	13.33***
Same-Ethnicity	31.94	51.38	15.64***
Deaf Children	(n=523)	(n=89)	
Same-Age	52.39	66.29	5.93**
Same-Sex	80.11	89.89	4.83*
Same-Ethnicity	32.70	43.85	4.18*

Note: Chi-square analyses were conducted on frequencies.

*$p < .05$. **$p < .01$. ***$p < .001$.

Table 5

Stability of Maintained Friends Among Hearing and Deaf Children

Type of Friends	Hearing Children	Deaf Children
Short-Term Continuous	33.33 (7)	36.84 (7)
Long-Term Continuous	42.86 (9)	19.53 (2)
Sporadic	23.81 (5)	52.63 (10)

Note: Proportion of maintained friend dyads. Number of dyads are in parenthesis.

Table 6

Proportion of Same-Age, Same-Sex, and Same-Ethnicity Nonmaintained and Maintained Friends

	Nonmaintained Friends	Maintained Friends	Chi-Square Statistic
Hearing Children	(n=88)	(n= 21)	
Same-Age	77.27	95.24	3.51*
Same-Sex	95.45	95.24	0.01
Same-Ethnicity	46.59	71.43	4.19*
Deaf Children	(n=70)	(n=19)	
Same-Age	60.00	89.47	5.81**
Same-Sex	90.00	89.47	0.01
Same-Ethnicity	41.43	52.63	0.76

Note: Chi-square analyses were conducted on frequencies.

*$p < .05$. **$p < .01$. ***$p < .001$.